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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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03/24/2004

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EXAMINER

DOROSHENK, ALEXA A

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-----------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/622,301 | GUETLHUBER, FRIEDRICH | |
| | Examiner | Art Unit | |
| | Alexa A. Doroshenk <i>ADD</i> | 1764 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 16-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11-20-00</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 8, line 2 recites "reaction zone 67". There is no "67" in figure 5 or any other figure. It is believed that this is a typo and should be "reaction zone 62".

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the honeycomb and concentric ring components, wherein heat insulation material is prevented from circulating by structures installed in the chamber and wherein a partial stream of the heat carrier is used as the heat insulation material must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims

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are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 10 and 11 (submitted in the preliminary amendment of August 16, 2000) been renumbered 19 and 20.

4. Claims 16-18 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend upon another multiple dependent claim (claim 14). See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner has not found support in the originally filed specification, claims or drawings which disclose wherein the heat insulation zone is "limited to the edge area" of the inlet side tube plate. For examination purposes, the only conclusion the examiner could come to was that the edge is in fact an entire planar side of the plate.

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7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Regarding claim 14, the phrases "for example" and "such as" render the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 4, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Jewett (2,986,454).

With respect to claim 1, Jewett discloses a tubular reactor (1) comprising:
a heat carrier (via 11 and 12) circulating around a contact tube bundle (8/23)
inside a reactor jacket (2), the tube bundle (8/23) extending between a tube plate (20) at
the gas inlet side (17) and a tube plate (4) at the reaction gas outlet side (19) and
sealed to it (col. 2, lines 10-12, 31-35, 53-56 and col. 3, line 4);

with gas inlet (15) and gas outlet (16) hoods spanning the face sides of the two tube plates;

with a heat insulation zone (24) that borders on the heat carrier side on the tube plate (20) at the gas inlet side (17);

wherein the two tube plates are anchored in an essentially known manner at their edges to the reactor jacket in a sealed manner (col. 2, lines 10-12, 31-35, 53-56 and col. 3, line 4); and

wherein the heat insulation zone (24) comprises a chamber containing a gaseous heat insulation material (air, col. 3, lines 11-14).

With respect to claim 4, the heat insulation zone (24) is limited to partial tube-free areas of the gas inlet side tube plate (20) in that the insulating material (air) can only traverse the areas of the chamber that do not have tubes blocking the flow path.

With respect to claims 6 and 7, only an operational conditions or method steps are claimed which are not given weight in an apparatus claim since an apparatus claim covers only what a device is, not what a device does. MPEP 2114. Even so, it is noted that the gaseous heat insulation material (air) is circulated through the chamber as a cooling medium (see figure's "cool air" inlet indication).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2, 3, 5, 8-26, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jewett (2,986,454), as applied to claim 1 above, and further in view of Gottzmann et al. (5,820,655).

With respect to claims 2, 3, 8 and 14, Jewett discloses the reactor as discussed above, but fails to disclose any inserts into his insulation zone (24).

Gottzmann et al. also discloses a tubular reactor and teaches wherein providing "variable area inserts, spiral (reads on concentric ring) inserts, or an insulating insert of variable thickness" can be used to control the local heat transfer coefficients and therefore control the insulation temperature (col. 11, lines 43-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide either variable inserts, spiral inserts or inserts of variable thickness in the insulation zone (24) of Jewett in order to achieve greater temperature control as taught by Gottzmann et al.

With respect to claims 5 and 10, the addition of the structures taught by Gottzmann et al. into the chamber (24) of Jewett (as discussed above) would result in the gaseous material (air) from circulating by structures (such as the reaction tubes 8/23) installed in the chamber (24).

With respect to claims 9, 15 and 19, any components inside chamber (24) would be covered on the side opposite of the gas inlet tube plate (20) by tube plate (3).

With respect to claims 11-13, only an operational conditions or method steps are claimed which are not given weight in an apparatus claim since an apparatus claim

covers only what a device is, not what a device does. MPEP 2114. Even so, Jewett discloses wherein the gaseous heat insulation material (air) is circulated through the chamber as a cooling medium (see figure's "cool air" inlet indication) and the circulating coolant bath heat carrier circulating around the tube bundle (8/23) is a liquid cooling means (col. 2, lines 12-17).

With respect to claim 20, the heat insulation zone (24) is limited to the edge area of the gas inlet side tube plate (20) in that it is on the flat planar edge of the plate.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Alexa Doroshenk", is written over the printed name.

Alexa Doroshenk
Patent Examiner
Art Unit 1764

March 17, 2004